**Before the**

# STATE OF ILLINOIS
# ILLINOIS COMMERCE COMMISSION

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| In the Matter of Petition of Global NAPs, Inc. for Arbitration Pursuant to Section 252(b) of The Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a/ Ameritech Illinois | **Docket No.____** |

Direct Testimony

of

## SCOTT C. LUNDQUIST

on behalf of

Global NAPs, Inc.

December 28, 2001

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# INTRODUCTION

**Qualifications**

Q. Please state your name, position and business address.

A. My name is Scott C. Lundquist. I am Vice President of Economics and Technology, Inc., ("ETI"), Two Center Plaza, Suite 400, Boston, Massachusetts 02108. Economics and Technology, Inc. is a research and consulting firm specializing in telecommunications economics, regulation, management and public policy.

Q. Please summarize your educational background and previous experience in the field of telecommunications regulation and policy.

A. I have prepared a Statement of Qualifications, which is attached hereto as Attachment 1.

Q. Have you previously testified as an expert in telecommunications regulatory proceedings?

A. Yes. I have served as an expert witness on telecommunications matters before state public utility commissions on fifteen prior occasions, including appearances in Alabama, California, Connecticut, Hawaii, Maryland, Nevada, New Jersey, Ohio, Texas, Washington state, and Wisconsin. Many of these cases have required that I analyze the costs for local exchange carriers' (LECs') networks and services, relative to such issues as the restructuring of access service tariffs, the development of cost-based rates for unbundled network rate elements (UNEs), and the arbitration of interconnection agreements.

Q. Have you previously testified before the Illinois Commerce Commission ("Commission")?

A. No, this is my first appearance before the Commission.

**Assignment**

Q. On whose behalf is this testimony being offered?

A. This testimony is offered on behalf of Global NAPs, Inc. (GNAPs).

Q. What was your assignment in this proceeding?

A. As the Commission is aware, GNAPs and Illinois Bell Telephone Company d/b/a Ameritech Illinois ("Ameritech-IL") have been able to negotiate most of the terms of an interconnection agreement between the two companies. However, there remain several outstanding issues for which GNAPs is seeking arbitration by the Commission.[1] ETI has been engaged by GNAPs to provide expert testimony addressing several of those issues.

Q. What specific issues are addressed by your testimony?

1. See Global NAPs, Inc., *In the Matter of Petition of Global NAPs, Inc. for Arbitration Pursuant to Section 252(b) of The Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois*, Illinois Commerce Commission, *Petition for Arbitration*, November 30, 2001 ("GNAPs Petition").

A. My testimony addresses the following specific issues:

- Whether either party should be required to install more than one point of interconnection per LATA;
- Whether each carrier should be responsible for the costs associated with transporting traffic to a single point of interconnection;
- Whether GNAPs should be required to adopt the local calling area boundaries currently defined by Ameritech-IL;
- Whether GNAPs should be able to assign NXX codes to its customers that are "homed" to a central office switch outside of the customer's local calling area (sometimes referred to as "virtual" NXX assignments) in order to compete directly with Foreign Exchange ("FX") service that has long been offered by Ameritech-IL; and
- The appropriate form of inter-carrier compensation for locally-rated traffic exchanged between GNAPs and Ameritech-IL , including calls terminated to Internet Service Providers (ISPs).

**Summary of Testimony**

Q. Please briefly summarize your testimony on these issues.

A. The issues being arbitrated by the Commission raise fundamental concerns about the physical interconnection arrangements (number and location of points of interconnection) between ILECs and CLECs, and the use by CLECs of so-called "virtual" NXXs to provide Foreign Exchange ("FX") service to their customers. Indeed, these issues go to the heart of the need to establish regulatory policies that are designed to flexibly promote and encourage competition – the vision of the 1996 federal *Telecommunications Act* – as opposed to policies whose purpose is to protect the monopoly position of the incumbent – the vision of the ILECs.

To understand the critical nature of these issues, it is important to recognize first that CLECs face a considerable challenge in devising a strategy to compete with the ILEC's long-established serving arrangements, massive customer base, and ubiquitous network. At the same time, telecommunications technology has changed significantly since the ILEC's basic network design and construction was established. Moreover, CLECs will typically not begin with a mix of customers that is in any way similar to the ILEC's customer base, either in terms of service needs or customer location; to the contrary, most CLECs will likely find that they can most easily gain a foothold in the market by serving one or more niches out of the total market demand for telecommunications services. The CLEC, therefore, will face different economic and market constraints on its network design than those faced by the ILEC. It is inevitable that these different considerations will lead CLECs to deploy networks that look very different from the ILEC's network – in terms of the number and locations of switches and inter-switch facilities, the length and nature of customer loops, and the types of services predominantly provided to their customers.

The Commission should encourage and accommodate these different CLEC strategies and network topologies. It would be regulatory folly to think that any CLEC will, should, or even could merely mimic or "clone" the ILEC's embedded network any time in the foreseeable future, if ever. Indeed, if the ILEC was building its network on a clean slate, it would probably not clone *itself*; instead, it would take advantage of new technology to build a different network than it has today. For this reason, it is critically important to the development of competition that regulators ***not*** make the mistake of assuming that the ILEC's network architecture is somehow written in stone, or even optimal to the needs of telecommunications consumers today. To the contrary, regulators should be alert to and resist ILEC efforts to impose costs on their competitors by using regulatory policies designed for other purposes to force CLECs to build facilities, or assume costs, that are not germane to the CLECs' own competitive strategies.

These considerations lead to the following general conclusions, which are explained at greater length in the body of this testimony:

- The party originating traffic is responsible for getting that traffic from wherever it originates on its network to the other party's point of interconnection. The notion that CLECs should have to "pick up" traffic from the ILEC at some point close to the location where the traffic originates on the ILEC's network is simply an anticompetitive effort to shift to CLECs costs that the ILEC should properly bear.

- ILECs have no right to demand interconnection at any particular point on a CLEC's network (although they do have an obligation to interconnect). CLECs, however, have

the express right to establish interconnection "at any technically feasible point" on the ILEC's network. These obligations are asymmetrical ***on purpose***. This asymmetry is designed to offset, in part, the inherent advantages of the ILEC's ubiquitous network and widely dispersed customer base. For this reason, CLECs are permitted to establish networks where and how they can, to deliver CLEC-bound traffic to the CLEC. CLECs also have, and ILECs are required to provide, maximum flexibility to CLECs for delivery of ILEC-bound traffic anywhere that is technically feasible (for the ILEC) and convenient (for the CLEC).

- Modern telecommunications technology has made the distance between a calling and called party almost totally irrelevant to the cost of handling a call. Basing charges on the distance a call is carried is a legacy of the era of legally sanctioned telephone monopolies, but it has no legitimate role to play in competitive intercarrier relationships. Ameritech-IL would incur *de minimis* additional costs to transport GNAPs-destined calls beyond Ameritech-IL's local calling area boundaries. Therefore, the Company should not be permitted to subject GNAPs to payments for such transport that would be orders of magnitude higher than those costs.

- In part because distance has become irrelevant as a cost driver, the "location" to which particular NXX codes are "assigned" should not matter for any significant inter-carrier purpose. The patchwork quilt of "rate centers" and "local calling areas" that the ILECs created over the last hundred years bears no relationship to the technological or competitive realities of today. As a result, regulators should place no restrictions on which telephone numbers carriers can assign to their customers; to the contrary,

regulators should establish a regime in which carriers are permitted maximum competitive flexibility with respect to the creation and marketing of both "inward" and "outward" local calling areas.

- Ameritech-IL should not be allowed to prohibit GNAPs from offering FX services to its customers using "virtual" NXX arrangements, given that Ameritech-IL's costs are not affected by that practice and the Company itself offers FX services that involve the assignment of "virtual" telephone numbers to customers, i.e., numbers rated to exchanges different from the one in which the customer is physically located and where the service is physically terminated.

The final section of my testimony addresses the issue of intercarrier compensation for locally-rated traffic exchanged between GNAPs and Ameritech-IL. I review the history of the FCC's efforts to impose a distinction for intercarrier compensation purposes between ISP-bound calls and other locally-rated traffic, and describe the rules set forth in the FCC's *ISP Remand Order* which presumably govern intercarrier compensation in this instance. In addition, I provide a comprehensive report on intercarrier compensation issues that I prepared (with ETI President Dr. Lee L. Selwyn) and submitted in the FCC's ongoing rulemaking on intercarrier compensation mechanisms, CC Docket No. 01-92. Based upon that report, I recommend that, in the event that the Commission determines that the specific intercarrier compensation rules set forth in the FCC's *ISP Remand Order* do not apply to locally-rated traffic exchanged between GNAPs and Ameritech-IL (e.g., as a result of an appellate court ruling to reverse, vacate, or stay the *ISP Remand Order*), the Commission

should apply a symmetric, TELRIC-based reciprocal compensation rate to all such traffic, including ISP-bound calls.

## POINT OF INTERCONNECTION AND VIRTUAL FX ISSUES

**ILECs such as Ameritech-IL continue to reflect their long history as franchise monopoly service providers in the massive scale and ubiquity of their local exchange networks, whereas CLECs tend to design their networks to more closely accommodate current and anticipated demand in an evolutionary, flexible manner.**

Q. Are there major differences between the architectural features of ILEC and CLEC networks?

A. Yes. Local telephone networks are comprised of three principal components:

- *Subscriber loops* – dedicated facilities interconnecting the local exchange carrier wire center with the subscriber's premises and/or equipment.

- *End office switches* – the switching systems at which individual subscriber loops terminate and which interconnect subscribers with each other and with interoffice and interexchange network facilities; and

- *Interoffice network* – trunking and switching facilities that provide interconnections among end offices and between end offices and other telecommunications carriers.

The principal architectural differences between ILEC and CLEC networks arise largely in the relative *mix* of these various network components.

Q. Please explain.

A. ILEC networks have been built up over more than a century and generally consist of a large number of end offices that are physically located in relatively close geographic proximity to the subscribers they directly serve. For example, Ameritech-IL currently operates a total of 59 host local switches in its Illinois service areas that, together with some 322 remote switching units (RSUs) tied by umbilical links to those hosts, terminate the approximately seven-million access lines (subscriber loops) served by the Company[2]. When a call involves customers served by different end offices (for example, customers located in different communities), completion of the call requires that it be routed between the two end offices over an interoffice trunk. In order to avoid deploying dedicated interoffice trunks between every possible pair of ILEC end offices, in most cases individual end offices are connected (via interoffice trunks) to an intermediate switching point known as a "tandem" office. The tandem switch (sometimes referred to as a "Class 4" switch in the traditional North American network hierarchy) can then interconnect any of the individual end offices to which it is directly trunked. Where the end offices involved in a particular call are trunked to (subtend) *different* tandem switches, the call is completed via an interoffice trunk between the two tandems. In certain situations in which particularly high volumes of traffic exist within pairs of end offices, direct interoffice trunks may be used to connect the two end office switches involved.

Q. Why might a CLEC network not be designed the same way?

2. Federal Communications Commission, ARMIS Database, Report 43-07 (Table I. Switching Equipment), for year 2000, accessed 12/26/01. According to that report, Ameritech-IL had 7,042,623 lines in service and 381 local switches (including 59 hosts) as of year end 2000.

A. The differences between ILEC and CLEC network architectures are best explained in terms of the relative economics of switching vs. transport.

Q. Are switching and transport economic substitutes for one another?

A. In some cases, yes. One way of looking at the principal network components identified above is in terms of the primary functions of switching and transport. Subscriber loops support a transport function, carrying traffic between the customer's premises and the serving wire center; interoffice trunks also provide a transport function, carrying traffic from one switch to another. Switching and transport facilities are often economic substitutes for one another; for example, as I described above, by introducing a tandem switch to interconnect a number of individual end offices, one avoids the need to deploy direct interoffice trunks between every possible pair of end offices on the ILEC's network. Similarly, by deploying end office switching facilities in close geographic proximity to the individual subscriber, it is possible to concentrate traffic on a smaller complement of transport facilities than would be possible if, for example, individual switches are used to serve subscribers located across a large geographic area.

The specific mix of switching vs. transport facilities in a network thus depends heavily upon the relative cost of each and the overall scale of operations of the network. ILECs such as Ameritech-IL serve millions of individual subscribers statewide and can thus afford to deploy relatively efficient, large-scale switching systems in close geographic proximity to their customers. CLECs typically serve a customer population that is a minute fraction of the size of the ILEC's customer base. In order to achieve switching efficiencies, CLECs

often deploy a relatively small number of switches, so their customers' traffic must be transported over relatively large distances.

This switching vs. transport trade-off has always been present in telecom network design: you can generally reduce switching costs by concentrating demand in a small number of large switches, but by so doing you increase the transport capacity that is required to connect the switches to customers over greater distances. In recent years, however, the scales have been tipped – *shoved* would probably be a better word – decidedly in the direction of substituting transport for switching.

As a general matter, the costs of transport have been dropping at an enormous rate in recent years. This point is highlighted in an article appearing in the January 2001 issue of *Scientific American,* "The Triumph of the Light" by Gary Stix. I have reproduced this article as Attachment 2 to my testimony. The article reports that "the number of bits a second (a measure of fiber performance) doubles every nine months for every dollar spent on the technology." In other words, the cost per unit of transport is cut by 50% *every nine months*. Put another way, over the past five years, the cost per unit of telecommunications transport has fallen by more than 98%! Transport costs have become far less distance-sensitive and, with the use of high-capacity fiber optics, massive amounts of capacity can be deployed at little more than the cost of more conventional transport capacity sizes.

One effect of this economic trend has been that ILECs have been consolidating multiple switches into large main frame/remote configurations. In the case of CLECs, the

substantially smaller scale of their customer base and traffic load makes any other approach infeasible as an economic matter.

Q. How might a typical CLEC network be designed?

A. Some CLECs will use Unbundled Network Element (UNE) loops leased from ILECs, along with CLEC-owned subscriber loop facilities, and collect these loops at centralized locations in each community in which the CLEC offers service. At these collection points, the traffic is concentrated onto high-capacity transport facilities (that may be leased from the ILEC or from other carriers or owned by the CLEC itself) for the sometimes long trip to the CLEC switch. There are several different types of concentration arrangements that may be used, depending upon the aggregate amount of traffic that is involved. For relatively low-volume situations, passive multiplexing of the individual subscriber loops onto specific dedicated channels in the high-capacity "pipe" may be most efficient; in other cases, small stand-alone switches or Remote Service Units (RSUs) subtending the distant Host Switch may be deployed. Where the CLEC's customers are concentrated within a small, relatively confined area (*e.g.*, within a shopping mall), a small PBX-like switch may be used to interconnect individual end users with a common pool of facilities for the trip to the CLEC central office switch.

Other CLECs adopt different strategies, depending on the type of customers they serve and the needs of those customers. For example, while some businesses (*e.g.*, a dry cleaners or a movie theater) have a specific geographic location that is significant to their business operations, others (*e.g.*, taxicab dispatch services, ticket agencies, answering services,

unified message service providers, Internet service providers) do not. Customers of this latter sort – particularly in times of expansion – may be willing to locate some or all of their telecommunications-related gear at or near the CLEC's location, if such an arrangement offers other benefits. To accommodate such customers requires the CLEC to obtain more space in its own central offices than it needs for its own operations, in order to accommodate customers' collocated equipment. This arrangement amounts to an economic trade-off of the costs of real estate and office space (which the CLEC recovers through charges to its customers for (short) loops and for collocation space) for the costs of loop plant to a distant customer location (which the CLEC would recover purely through loop charges). A CLEC pursuing this strategy would have switching resources and collocation space, as well as interconnection facilities between the CLEC and the ILEC; such a CLEC will have few if any "loops" – at least if a "loop" is construed to require outside plant.

Other CLEC strategies, involving still other mixes of telecommunications network investments and other investments, are also possible. The point of the 1996 Act is to create an environment where the arrangements a particular carrier deploys are driven by economics, ingenuity and customer demand, as opposed to obsolete regulatory categories and assumptions. In particular, CLECs should not be forced to replicate or emulate legacy ILEC network multi-switch architectures by, for example, being forced to construct (or otherwise acquire the use of) dedicated facilities between the CLEC's switch and multiple ILEC switches.

Q. Would adoption of Ameritech-IL's positions concerning the location of POIs and responsibility for transport have such an undesirable effect?

A. Yes, that is my understanding. While I have not been directly involved in the negotiations between Ameritech-IL and GNAPs, I have reviewed GNAPs' Petition for arbitration and discussed Ameritech-IL's positions with GNAPs' counsel for those negotiations. It appears that Ameritech-IL's position is that GNAPs should be willing to establish multiple POIs, at locations near or at the Ameritech-IL end offices which are originating traffic destined for GNAPs-served telephone numbers.[3] Moreover, I understand that Ameritech-IL is taking the position that each carrier is responsible for transporting its traffic to the boundary of each local exchange area defined by Ameritech-IL.[4] Under these conditions, GNAPs would be compelled either to place multiple POIs in each LATA, or to incur transport costs as if it had – thereby limiting the ability of GNAPs to take advantage of a network design based upon a single switch per LATA.

**The differences between ILEC and CLEC network architectures, as well as the substantially smaller scale of CLEC operations, are key sources of cost differences between the two types of carriers.**

Q. Is it reasonable to expect that a CLEC's costs will differ, with respect to both level and structure, from the cost conditions confronting an ILEC?

A. Indeed, yes. There are in fact two principal sources of cost variation as between a CLEC and an ILEC with respect to the provision of local exchange service and, in particular, the costs of transporting and terminating local calls: *scale* and *facilities mix*. I address each in turn.

3. *See* GNAPs Petition at para. 46. GNAPs also indicates therein that Ameritech-IL's position in negotiations has been that if GNAPs does not establish multiple POIs, then GNAPs must pay for the additional transport costs to deliver originating traffic to the single POI.

4. *Id.*, at Issue 2, para. 50.

*Scale*. The overall cost of constructing and operating a telecommunications network is heavily affected by the overall volume of traffic and number of individual subscribers that the network is designed to serve; that is, telecom networks are characterized by substantial *economics of scale and scop*e. As I have previously noted, CLECs serve a far smaller customer population and carry far less traffic than do ILECs. Because they are necessarily forced to operate at a far smaller scale, CLEC networks may exhibit higher average costs than ILEC networks.

Q. Has the significance of those scale and scope economies been recognized previously by Ameritech-IL or its affiliates?

A. Yes. For example, in the 1998 Connecticut DPUC proceeding to consider the Joint Application of SBC and SNET for approval of their merger,[5] SBC offered testimony indicating that SNET's costs of equipment purchases would decrease substantially following the merger, due to the increased purchasing power of SBC relative to that of a stand-alone SNET. SBC stated that it has "learned from the SBC/Pacific Telesis merger that scope and scale, especially in the purchasing area, are tangible and significant."[6] SBC's Chief Financial Officer also stated that "we know that SNET pays over 20 percent more for purchases of switching and transport equipment than we do at SBC."[7] SBC also indicated that the savings experienced in contract negotiations for the combined SBC/Pacific Telesis

5. Joint Application of SBC Communications, Inc. And Southern New England Telecommunications Corporation for Approval of a Change of Control, Connecticut Department of Public Utility Control Docket No. 98-02-20.

6. *Id*. SBC Response to MCI-4, Exhibit A, "Introduction and Opening Comments of Don Kiernan," January 5, 1998, SBCSNET004573.

7. *Id*.

"tend to support the consultants' estimates" during the SBC/Pacific Telesis Group merger discussions of procurement savings (expense and capital) in the 7%-10% range.[8] When SBC and Ameritech sought approval from this Commission for their planned merger in 1998, their application provided offered fewer specifics concerning likely procurement savings from the merger, but stated that "the Merger will provide economies of scale and scope that will allow for continued investment in Illinois and the ability to continue to provide high quality telecommunications services in a competitive environment."[9]

Of course, Ameritech-IL, with some seven-million residential and business access lines in Illinois, is much larger than any CLEC. Accordingly, one would expect that, without the volume discounts available to a large ILEC such as the merged SBC/Ameritech, a CLEC will experience higher capital-related costs. A CLEC's capital-related costs will also tend to exceed the corresponding ILEC items due to the substantially greater level of risk that investors ascribe to CLECs. CLECs can thus expect to confront higher costs of debt and equity capital as well as the need to recover their capital investments over a somewhat shorter period of time than would be required for an ILEC with more stable and predictable demand.

*Mix.* All else being equal, a CLEC's network will typically consist of relatively less switching and relatively more transport or transport substitutes than would an ILEC

8. *Id.*

9. *Joint Application for approval of the reorganization of Illinois Bell Telephone Company d/b/a Ameritech Illinois, and the reorganization of Ameritech Illinois Metro, Inc. in accordance with Section 7-204 of The Public Utilities Act and for all other appropriate Relief*, Illinois Commerce Commission Docket No. 98-0555, *Joint Application*, July 24, 1998, at para 13.

network. While switching costs are sensitive both to the number of call set-ups as well as to aggregate call duration, transport costs tend to vary primarily with duration. Accordingly, it is reasonable to expect that CLEC local usage costs will exhibit proportionately greater duration-sensitivity and proportionately less set-up sensitivity than do ILEC usage costs.

Q. Is a LEC's choice of network architectures influenced by the level of traffic volumes that it serves or anticipates serving?

A. Yes, of course. The network design choices of the CLECs are particularly sensitive to anticipated demand conditions. To understand this, we must first consider the factors that drove the development of the ILEC networks. The design of the ILECs' contemporary networks generally reflects their traditional role as monopoly service providers serving all potential telephone service subscribers within their assigned operating areas. Under those conditions, the efficient network design tended to require an essentially ubiquitous deployment of distribution facilities, including distribution cables placed down virtually every street and extending to every business office park, high-rise building, and the like – whereupon traffic from those facilities was aggregated into higher-capacity feeder cables and transported back to a relatively high number of local, end-office switches and (other than intra-switch calls) was switched onto the interoffice transmission network for the transport of each call to its intended destination. Because ILECs serve close to 100% of the local service market, there is in each community sufficient demand to support at least one, and often several, central office switches or "remote service units" ("RSUs"). Consequently, the geographic areas served by individual central office switches (or wire centers, in cases where switches for several "exchanges" have been consolidated) tend to be

relatively small and the lengths of subscriber loops connecting the wire center with the customer's premises tend to be relatively short.

In contrast, a typical CLEC serves only a small fraction of the total customer base in any single community. Because the demand is so much smaller than for ILEC services, it would be extremely inefficient and costly for a CLEC to deploy a switch or even an RSU in each local community it wishes to serve. Instead, a CLEC will typically use one switch to serve all of its customers for a broad geographic area. A CLEC will design its network to accommodate the actual locations of its customers (including customers for whom location is variable, and might collocate with the CLEC) and their actual demand characteristics under an architecture that can be expanded in a flexible manner as demand for the CLEC's services grows.

Q. How do these different CLEC network architectures affect the issues in this proceeding?

A. Because CLECs will use very different network architectures to meet the needs of their customers than that used by the ILEC, regulators must avoid the tendency to assume that there is something automatic, appropriate, or "natural" about the ILEC's network design, or that there is anything automatic, appropriate, or "natural" about requiring CLECs to conform their operations to that design, whether for purposes of interconnection points or otherwise. There is nothing automatically natural or appropriate about the ILEC's network design. It is essentially an accident of history in any given case. Indeed, as will be seen, the very different CLEC network architectures highlight the arbitrary (and obsolete) nature of ILEC "local calling" areas, whether for incoming or outgoing calls. In other words, the

interconnection issues to be arbitrated by the Commission in this proceeding are directly affected by the fact that CLECs can, should, and do use very different network architectures than that used by the ILEC.

**A CLEC has the right to interconnect with the ILEC at any technically feasible point on the ILEC's network, and is not required to establish more than one Point of Interconnection in any LATA in order to obtain LATA-wide coverage via that interconnection arrangement.**

Q. Mr. Lundquist, are ILECs such as Ameritech-IL bound by any specific statutory or regulatory obligations relative to the issue of establishing Points of Interconnection (POIs) for the exchange of traffic with a CLEC's network?

A. Yes. The FCC's implementation of the interconnection requirements of the *Telecommunications Act* defines the basic framework within which the Commission should consider the question of points of interconnection and the costs of delivering traffic to them. The issue of the originating local carrier's responsibility has to be analyzed in the context of the obligations borne by two interconnected local carriers, which largely has been spelled out in the *Telecommunications Act* and the FCC's implementation of its local interconnection provisions. As a threshold matter, it is important to understand that the interconnection requirements adopted in the *Telecommunications Act* and developed in the FCC's *Interconnection Order* do not require or provide for symmetric treatment of ILECs and CLECs. Section 251(c)(2) *obligates* ILECs to interconnect with CLECs at any technically feasible point on the ILEC's network "(A) for the transmission and routing of telephone exchange service and exchange access; (B) at any technically feasible point within the carrier's network; (C) that is at least equal in quality to that provided by the local exchange

carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and (D) on rates, terms, and conditions that are just, reasonable, and nondiscriminatory...”; by contrast, Sections 251(a)(1) confers upon all telecommunications carriers the duty “to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers” but contains none of the specifics that the statute applies to *incumbent* LECs.

Q. Why is the lack of symmetry between ILECs and CLECs with respect to their inter-connection obligations important?

A. The key point of this asymmetry is that both the *Telecommunications Act* as well as FCC Rules hold that, in order to interconnect with an ILEC, a CLEC need establish only one (1) point of interconnection (“POI”) with an ILEC at any technically feasible point *anywhere* in each LATA. The *Telecommunications Act* and FCC Rules thus *obligate* each ILEC to allow such interconnection by a CLEC at *any* technically feasible point that is designated by the CLEC[10]. Moreover, FCC regulations do not grant the ILEC the right to designate the point at which the other party must “pick up” the ILEC’s traffic. In its *Local Competition Order*, the FCC explained:

> The interconnection obligation of section 251(c)(2), discussed in this section, allows *competing carriers to choose* the most efficient points at which to exchange traffic with incumbent LECs, thereby lowering *the competing carriers*’ costs of, among other things, transport and termination of traffic.[11]

10. Rule 51.305(a)(2).

11. *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, rel. August 8, 1996, 11 FCC Rcd 15499, 15588 (emphasis supplied) (*Local Competition*

(continued...)

The FCC identified the *Act* as the source of these differing obligations.[12]

Q. Is there any prohibition against ILECs determining technically feasible interconnection points and imposing those determinations upon interconnecting CLECs?

A. I am not aware of any provision of the *Act* that says, in so many words, "ILECs may not designate the locations at which CLECs must interconnect." But that is the only rational way to understand what the statute says and what the FCC says about it. As noted above, the interconnection obligations of LECs and ILECs are specifically identified in the *Act*, and ILECs' obligations are different and more extensive than those of CLECs. An ILEC may not assume some authority that is not provided for in the *Act*.

Q. Can you cite any specific actions taken by the FCC that support your interpretation of the *Act* with respect to this issue?

A. Yes. First, the FCC promulgated Rule 51.223(a), which specifically forbids states from imposing upon CLECs the obligations that Section 251(c) imposes upon ILECs. Section 251(c)(2) requires ILECs to allow interconnection at any technically feasible point on their networks. Rule 51.223(a) indicates that ILECs have no similar right to dictate where they will interconnect with CLECs' networks. In fact, the FCC reiterated its reasoning in

(...continued)
*Order*), aff'd in part and vacated in part sub nom., *Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), aff'd in part and remanded, *AT&T v. Iowa Utils. Bd.,* 119 S. Ct. 721 (1999).

12. *Id.*, at para. 220.

connection with an interconnection dispute in Oregon, where the FCC intervened and urged the court to reject US West's argument that the *Act* requires competing carriers to interconnect in the same local exchange in which it provides local service. The FCC explained:

> Nothing in the 1996 Act or binding FCC regulations require a new entrant to interconnect at multiple locations within a single LATA. Indeed, *such a requirement could be so costly to new entrants that it would thwart the Act's fundamental goal of opening local markets to competition*.[13]

More recently, in its order on SBC's Section 271 application for Texas, the FCC made clear its view that under the *Telecommunication Act*, CLECs have the right to designate the most efficient point *from the CLEC's perspective* at which to exchange traffic. As the FCC explained:

> New entrants may select the most efficient points at which to exchange traffic with incumbent LECs, thereby lowering the competing carriers' cost of, among other things, transport and termination.[14]

The FCC was very specific:

> Section 251, and our implementing rules, require an incumbent LEC to allow a competitive LEC to interconnect at any technically feasible point. *This means*

13. Memorandum of the FCC as Amicus Curiae at 20-21, *US West Communications Inc. v. AT&T Communications of the Pacific Northwest, Inc.*, (D. Or. 1998) (No. CV 97-1575- JE), emphasis supplied.

14. Memorandum Report and Order, *Application of SBC Communications Inc., Southwestern Bell Telephone Company and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance, Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region InterLATA Services in Texas*, CC Docket No. 00-65 at para. 78 (June 30, 2000).

> *that a competitive LEC has the option to interconnect at only one technically feasible point in each LATA.*[15]

Furthermore, the FCC confirmed this understanding in the *Intercarrier Compensation NPRM* it issued in April 2001.[16] At paragraph 72 of that *NPRM*, the FCC stated that "under our current rules, interconnecting CLECs are obligated to provide one POI per LATA."[17] With regard to transport costs, the FCC observed in paragraph 70 of the *NPRM* that its current rules require that "the originating telecommunications carrier bear the costs of transporting traffic to its point of interconnection with the terminating carrier."[18] CLECs are thus *entitled* to designate one and only one location at any technically feasible point within a LATA as their POI for that LATA, and the ILEC is *required* as a matter of law to transport traffic to be interchanged with the CLEC between the ILEC's end office switches and that POI, with the CLEC assuming the obligation to transport the traffic between the POI and the CLEC's end office switches. Nowhere is there any provision, either in the statute or in FCC rules, that would permit an ILEC to force interconnecting CLECs to establish a POI within each ILEC local calling area or to limit the ILEC's obligations with respect to reciprocal compensation to only those situations in which the POI is physically located within the ILEC local calling area associated with the ILEC customer who originated the call or to whom the call is to be terminated. And clearly, the respective transport obligations of the

15. *Id.*, at para. 78.

16. *See In the Matter of Developing a Unified Intercarrier Compensation Regime, Notice of Proposed Rulemaking*, CC Docket No. 01-92, FCC 01-132 (rel. Apr. 27, 2001) ("*Intercarrier Compensation NPRM*").

17. *Id.*, at para. 72, citation omitted.

18. *Id.*, at para. 70.

ILEC and the CLEC on either side of their POI must encompass *financial* responsibility for the associated costs of their transport as well as the physical transport activity itself.

I would note that I am not a lawyer and am not trying to opine as to what the *Act* "means" in a legal sense. But as a policy matter, it is unquestionable that the overriding purpose of the *Act* is to encourage competition in the local exchange market. That purpose would be frustrated if the ILEC could directly or indirectly force CLECs to incur costs to, in effect, duplicate the ILEC's ubiquitous embedded network. This anticompetitive result, however, is exactly what would occur if CLECs were forced to pick up traffic from the ILECs in multiple locations. It would also amount to the same thing, and have equally anticompetitive consequences, if the ILEC was able to shift financial responsibility for some or all of the transport costs incurred on its side of the POI to the CLEC, which is responsible for the transport that occurs on its side of the POI.

Q. What principle do you derive from these interconnection obligations relative to a local carrier's responsibility to transport originating traffic that is destined to another interconnected local carrier?

A. These interconnection obligations lead to the principle that a local carrier should be responsible for the costs of transport from the point at which the call originates on its network to the POI. This principle must apply whether or not that transport will extend beyond the originating caller's local calling area. Any other proposed assignment of financial responsibility for transport, *e.g*. to attempt to require the terminating carrier to pay for transport that is beyond the originating caller's local calling area, but nevertheless on the

originating carrier's side of the POI, would violate the established interconnection obligations, and must be rejected. In this regard – and, again, I am not a lawyer – I would direct the Commission's attention to the FCC's discussion of inter-network transport costs in paragraph 1062 of the August 1996 *Local Competition Order*. In that discussion the FCC is addressing how carriers should split the cost of facilities used to link their two networks, and the FCC makes quite clear that the originating carrier is responsible for the cost of getting its outbound traffic to the interconnecting carrier.

Q. Has Ameritech-IL attempted to shift financial responsibility for its originating transport in that manner?

A. Yes. As I explained earlier in my testimony (page 15), my understanding is that Ameritech-IL's position in its negotiations with GNAPs is that GNAPs should interconnect via multiple POIs in a LATA, or else bear the costs of any transport that may be required to deliver Ameritech-IL originated traffic to a single POI. Imposition of these requirements would have the effect of shifting the Company's financial responsibility for originating transport to GNAPs, contrary to the principle that the FCC has articulated.

**The incremental costs that Ameritech-IL would incur to transport calls to a single POI within a LATA would be *de minimis*.**

Q. Does an ILEC such as Ameritech-IL typically incur transport costs for calls that it originates and terminates within the same local calling area?

A. Yes. Local calling areas generally consist of a number of individual exchanges and in some cases multiple central offices within individual exchanges.[19] When an ILEC carries a local call on an end-to-end basis (*i.e.*, without a hand-off to another carrier), it typically must transport that call from the originating end office to the terminating end office, over interoffice facilities.[20] For example, a local, Band A call from the Oak Brook exchange to the River Grove exchange would require transport by Ameritech-IL of about eight miles between the two serving end offices.[21] Exactly the same principle applies where GNAPs is provided with a single POI for LATA-wide access, the only difference being the average *distance* over which the Ameritech-IL transport would occur.

Q. If the Commission were to adopt GNAPs position and require Ameritech-IL to transport calls to a single POI in each LATA, would Ameritech-IL incur significantly increased transport costs because of the additional distance those calls would be transported?

A. No, it would not. In fact, as I shall demonstrate below, the incremental costs that Ameritech-IL would incur to extend transport beyond the local calling area to a single POI

19. The situation in Illinois is a little more complex: Ameritech-IL's local exchange tariff (Ill. CC Tariff No. 20) classifies exchanges ("districts") into Bands A, B, or C. Band A calls (including intra-district calls) are charged on a per-call, untimed basis, whereas Band B calls are charged on a per-minute basis (currently at $0.05 for the initial minute, $0.0053 for each additional minute, in the peak rate period), with volume discounts applied. Band C calls for residence customers are classified as "competitive" and charged under a separate tariff (Ill. CC Tariff No. 19); the current Band C rates are $0.10 for each initial and each additional minute. In this context, I use "local calling area" to mean untimed, Band A calls only.

20. The only exception is when the call is an entirely *intraoffice* call, e.g., a call placed to a neighbor down the street.

21. See Table 1 of Attachment 4 to my testimony.

in each LATA are *de minimis*, in large part reflecting the drastic reductions in unit costs for transport that advances in fiber optic transmission technology have produced.

Q. How have you calculated the additional transport costs that Ameritech-IL would incur under the single POI arrangement that GNAPs seeks vs. the multiple POI arrangement that Ameritech-IL is attempting to impose?

A. The general method that I have applied is to develop an estimate for the incremental costs of transport to a single POI in a LATA, relative to the transport that would ordinarily occur within the local calling area, in this case assumed to be synonymous with Ameritech-IL's definition of Band A (untimed) local calling. To do this, one can first estimate the difference between the average transport distances associated with those two cases, and then multiply that incremental distance by the unit cost of the additional transport required. To perform this estimate, I have focused on the Chicago (358) LATA (MSA 1) and assumed that GNAPs' single POI is located in Oak Brook, where GNAPs' Chicago facilities are located.

Ameritech-IL's Band A local calling area (LCA) for Oak Brook (specifically, the Oak Brook rate center) includes eight exchanges.[22] Assuming that GNAPs establishes a single LATA-wide POI in Oak Brook, I have calculated the average Ameritech-IL transport distance relative to the GNAPs Oak Brook POI (using Ameritech-IL's switch in Oak Brook, OKBRILOA, as the base point) separately for (a) calls confined to Band A for Oak Brook,

22. See Table 1 to my Attachment 4.

and (b) for transport LATA-wide. The average transport distance for Band A calls from Oak Brook is 4.58 miles; for transport from a single GNAPs POI in Oak Brook to points throughout the Chicago (358) LATA, the average transport distance would be 17.39 miles. Thus, the *additional* transport distance for a single LATA-wide POI vs. Ameritech-IL's local calling area-specific POIs is 12.81 miles. Attachment 4 to my testimony provides the workpapers for this calculation.

Q. How did you determine the average transport distance for each of these two cases?

A. For this calculation, I assumed that the volume of traffic to/from each Ameritech-IL central office is proportional to the number of access lines served out of that office. Using office-by-office access line counts, I developed weights for each Ameritech-IL central office and multiplied those weights by the distance between that central office and the Oak Brook switch. I then summed these weighted distances to develop the weighted *average* distance.

Q. How does this additional average transport distance, 12.81 miles, translate into the additional transport costs associated with a single POI covering the entire Chicago LATA vs. individual POIs for each local calling area in that LATA?

A. A DS-3 transport facility contains 672 voice (DS-0) channels. In all, a DS-3 interoffice trunk can carry approximately 8.9-million minutes of traffic per month[23]. Dividing Ameritech-IL's currently-tariffed switched access DS-3 mileage rate element of $21.48 by

23. This estimate was obtained from the testimony of BellSouth's cost witness Cynthia K. Cox before the Georgia Public Service Commission in Georgia PSC Docket No. 13542-U, Direct Testimony of Cynthia K. Cox (BellSouth), April 3, 2001, at page 11. Ms. Cox testified that a "level of 8.9 million minutes of traffic per month is typically equivalent to a DS3 level."

8.9-million minutes, I calculated a voice-grade transport rate per-minute per-mile of $0.000002413 of a cent. Multiplying this per-mile rate by the 12.81 miles of additional transport associated with a single POI vs. a POI in each Ameritech-IL's local calling area, I calculated the average additional transport cost per minute at $0.00003092, i.e., about three thousandths of a cent. See Attachment 4 to my testimony for the workpapers supporting this calculation.

Q. Your DS-3 cost calculation is based upon the per-mile rate element in Ameritech-IL's tariff only, and does not include the Company's Fixed charge for DS-3 Direct-Trunked Transport, or any Entrance Facility charges. Why is that?

A. Recall that we are attempting to identify the *additional* costs associated with transport beyond Ameritech-IL's local calling area, relative to the costs that the Company would incur for delivery of calls within that local calling area. Of the various rate elements for DS-3 transport, only the per-mile charge would apply, since the monthly fixed charge and the charges associated with Entrance Facilities are required for a dedicated interoffice transport facility whether it is wholly confined within a single Ameritech-IL local calling area or runs between two different Ameritech-IL local calling areas. Hence, neither of those categories of charges are in any sense an "additional" transport cost for delivering calls outside of Ameritech-IL's local calling area.

Q. Is there any reason to think the transport cost estimate you have developed may actually be high?

A. Yes. Ameritech-IL's $21.48 /mile DS-3 rate appears high relative to DS-3 transport rates applied in other jurisdictions, including other SBC service territories. For example, SBC's Texas operating company, Southwestern Bell Telephone Company (SWBT), has a DS-3 transport rate of $16.16[24] per-mile in the Suburban zone, as was established in its generic interconnection agreement, T2A[25], which has been entered into by numerous CLECs[26]. If the $16.16 per-mile rate is applied instead of the $21.48 rate in my calculation, the per-minute cost for the additional 12.81 miles of transport outside of Ameritech-IL's local calling area for Oak Brook would be $0.00002326, *i.e.*, about 2.3 thousandths of a cent (see Attachment 4 to my testimony).

However, that value may be too high relative to a truly forward-looking TELRIC cost estimate. In April of this year, the Georgia Public Service Commission established an interim cost-based per-mile charge for BellSouth's DS-3 transport of only $2.72.[27] When Ameritech-IL's cost for the additional 12.81 miles of transport are recalculated using that per-mile value, the Company's costs fall to a truly minuscule $0.000003915 per minute, i.e., about four ten-thousandths of a cent (see Attachment 4).

24. The $16.16 rate is the higher of the two rates provided for DS3 interoffice Transport, namely $16.16 applies for Suburban zones and $9.29 for Urban zones.

25. Texas T2A Agreement (T2A), Revised 01/31/00, Appendix Pricing – UNE Schedule of Prices (dated 4/16/01). *See*, http://clec.sbc.com/unrestr/interconnect/t2a/t2a.cfm (accessed 11/28/01).

26. Texas Public Utilities website, Texas 271 Agreements (T2A) Project #16251 (listing of interconnection agreements entered into under T2A). *See,* www.puc.state.tx.us/telecomm/projects/16251/Texas271A.cfm (accessed 11/28/01).

27. Set as interim rate on April 24, 2001 as stated by the Georgia PSC Docket No. 11853-U, rate listed in Docket No. 10692, Document No. 47662, 6/04/01, Revised Statement of Generally Available Terms and Conditions for Interconnection, Unbundling and Resale, May 31, 2001, GA SGAT-Attachment A.

Q. What conclusions do you draw from these calculations?

A. The primary conclusion that I draw from these calculations is that the additional costs that Ameritech-IL would incur in order to deliver traffic from a GNAP POI in Oak Brook to points outside of the Ameritech-IL Oak Brook local calling area, as opposed to delivery within that local calling area, are extremely small, on the order of a thousandth of a cent or, more likely, much less than that.

**Ameritech-IL should not be allowed to prohibit GNAPs from offering Foreign Exchange service to its customers using "virtual" NXX arrangements, given that Ameritech-IL's costs are not affected by that practice and the Company itself offers FX service in which "virtual" telephone numbers are assigned to the FX customer.**

Q. Mr. Lundquist, can you summarize the issue concerning the use of "virtual" NXX arrangements that the Commission must arbitrate in this case?

A. Yes. In its proposed interconnection agreement with GNAPs, Ameritech-IL has taken the position that GNAPs should not be permitted to assign telephone numbers with NPA-NXX codes that do not correspond to their physical locations to its end users.[28] GNAPs and other CLECs employ non-geographic assignments of NPA-NXX codes, sometimes referred to as "virtual" NXX arrangements, in order to offer a service to their customers that competes directly with Ameritech-IL's own longstanding Foreign Exchange (FX) service. Ameritech-IL and other ILECs consider those arrangements to amount to an evasion of the retail toll tariffs they apply to their own end users (who may place such calls), and thus want to

28. See, GNAPs Petition, at paras. 58-65.

compel CLECs to conform to their established local calling area definitions and a geographically-linked application of NPA-NXX codes.

Significantly, Ameritech-IL itself offers its own customers serving arrangements wherein the telephone number that is assigned to the customer is not rated in the same exchange as the customer is physically located and where the service is physically provided. One such service arrangement that Ameritech-IL and other ILECs have traditionally offered for decades is known as "Foreign Exchange" ("FX") service. By seeking the opportunity to define and utilize virtual NXX codes, GNAPs is seeking to provide its customers with services and serving arrangements that are comparable to and competitive with those currently being offered by Ameritech-IL.

Q. You just referred to ILEC local calling areas – how do they enter in to the issue of "virtual" NXX code assignments?

A. Recall that a local calling area generally consists of one or more individual exchanges (sometimes referred to as "rate centers") to which customers may place calls without a toll charge ("outward local calling area") or from which customers may receive incoming calls without the calling party being subject to a toll charge for such calls ("inward local calling area"). An exchange is an administrative definition of a geographic area within which all customers receive identical rating and rate treatment with respect to both outgoing and incoming calls. In non-metropolitan areas, an exchange usually corresponds to the area

served by a single wire center or central office switch. In metropolitan areas, an exchange may include an area served by more than one wire center.[29]

The definition of local calling areas is fundamental to the "virtual" NXX issue, because the only reason anyone would ever care about assigning a customer in one location a telephone number with an NXX code associated with another location – that is, the "virtual" NXX issue – is if it matters that the customer is not in the local calling area associated with the assigned telephone number. Traditionally, local calling area boundaries have served to delineate the rating treatment for an ordinary POTS call, i.e. whether it would be rated according to the ILEC's local service tariff, or whether toll charges would apply. In order to fully understand the ramifications of allowing "virtual" NXX code assignments, one first needs to consider how NPA-NXX codes are used for POTS call rating and routing.

Q. How does a telephone company determine, for any given call, whether it is a local call or if a toll charge applies?

A. The area code (NPA) and central office code (NXX) of a telephone number (NPA-NXX) are, with limited exceptions, mapped specifically to a particular exchange. For example, the 217-675 NPA-NXX uniquely specifies the Quincy exchange. There may be, and (particularly for urban areas usually are) more than one NPA-NXX code associated with an

29. The precise definition of a local calling area tends to be more complex. Over time, most states have established one or more "optional extended area calling" arrangements under which the same call might be rated as toll for a customer that does not subscribe to the extended arrangement, but local for one who does. However, I will use the term "local calling area" to refer to the rate centers that a subscriber can call without incurring a toll charge from a basic one-party flat rate residential (1FR) or business (1FB) access line, *i.e.*, the subscriber's home exchange and EAS exchanges.

exchange; since the onset of local telephone service competition, some of the NPA-NXX codes may be "held" by the incumbent LEC while others may be assigned to ("held by") one or more CLECs. When a call is placed, the dialed number is examined by the originating central office switch to determine whether to route the call directly to the central office serving the dialed NPA-NXX or whether to route the call through an intermediate switching entity known as a tandem switch. The central office thus "translates" the dialed number into a routing for the call. It may also determine, through a lookup in a reference table maintained in the switch itself, whether, based upon the dialed NPA-NXX code, the call is to be rated as "local" or "toll." In some cases, this determination may affect the dialing sequence that the customer is required to use in order to place the call. The rating of the call *for billing purposes* is also based upon the dialed NPA-NXX, with the billing software looking to reference tables for the treatment and applicable rate for a call originated at one NPA-NXX and terminated at another NPA-NXX.

Q. Why was the "local" versus "toll" distinction originally established in the early days of the telephone industry?

A. The "local" versus "toll" distinction essentially grew out of the architecture of the earliest telephone networks. Originally, an exchange generally referred to the geographic area served by a manual switchboard to which all of the telephone lines within that exchange were connected. An operator would complete "local" calls by physically plugging the calling party's line into the called party's line using a patch cord. If the call was destined to a customer served by a different switchboard (i.e., in a different exchange), the operator would signal the terminating switchboard and instruct the operator at that location as to

which phone line the call was to be connected. Generally, such "inter-exchange" calls were rated as "toll" and additional charges for the call would apply. For calls to nearby exchanges, direct trunks would interconnect the individual switchboards; however, for longer distances, one or more intermediate switchboards would be involved in interconnecting trunks so as to achieve the desired end-to-end connection. Distance was thus a major factor in both the complexity and the cost of individual calls.

As the number of telephone lines increased and mechanized switches replaced cord switchboards, the "exchange" began to take on more *administrative* properties rather than the *physical* properties associated with individual switchboards. Multiple central office switches could – and did – serve the same "exchange," and local calling was extended to include nearby exchanges as well as the subscriber's "home" exchange. Nevertheless, maintaining a rating distinction between local and toll calls made sense for many years, because it generally reflected significant distance-based cost differences between the two classes of calls.

Q. In today's modern digital telecommunications networks, is the local/toll rating distinction still supported by distance-based cost differences between "local" and "toll" calls?

A. No, it is not. The explosion in telecommunications technology over the past two decades, and particularly the enormous gains in fiber optic transmission systems capacity that I discussed earlier in my testimony (page 12), has reduced the cost of telephone usage to a mere fraction of a cent per minute. It also has made any physical distinction that may have

once existed as between "local" and "toll" calls all but obsolete, and has essentially eliminated *distance* as a cost-driver for all telephone calls.

Q. Has distance in fact ceased to be a basis for pricing in those sectors of the telecommunications industry that are now or that have become robustly competitive?

A. Yes. It is now widely recognized that both the long distance and wireless service markets are characterized by intense competition. Distance has all but disappeared entirely in interstate long distance pricing structures. Under most of the pricing plans being offered by interexchange carriers to residential and business consumers, the price of a 28-mile interstate toll call from Chicago, Illinois to Gary, Indiana is exactly the same as the price of a 1,700-mile call from Chicago to San Diego. Distance-based charges have also disappeared in the *international* long distance market as well, although country-specific price differences, based upon factors *other than distance*, persist.

Wireless carriers have also largely eliminated distance as a pricing element. Prior to the entry of PCS competition, cellular carriers offered very limited local calling areas (often replicating precisely the local calling area defined by the ILEC for the exchange in which a particular cell phone was rated), and also imposed high "roaming" charges for outward calls that were originated outside of the customers "home" service territory (even where the call was originated from another service territory controlled by the same cellular carrier). As PCS carriers came into the market, they began to offer extended, sometimes *nationwide*, local calling, and have also introduced calling plans that eliminate most or all roaming charges. Both Sprint PCS and AT&T Wireless Services have been offering standard calling

plans that make no distinction as between "local" and "long distance" calls or otherwise charge on the basis of distance. Competitive pressure from these companies has forced incumbent cellular carriers such as Verizon Wireless or Cingular Wireless (the new entity produced by the merger of SBC's and SBC/SNET's wireless operations) to adopt similar distance-insensitive pricing plans. For example, Cingular Wireless offers an array of "Cingular Nation" calling plans that are marketed as having "no U.S. roaming or nationwide long distance charges" for calling anywhere within the 50 states.[30]

In fact, one of the *only* segments of the telecommunications industry where distance-based pricing (in the form of local/toll distinctions and/or mileage-based rates) persists is in the largely noncompetitive *local* telecommunications sector; indeed, the fact that this pricing remnant of a monopoly era persists in the case of local telephone services serves to *confirm* the utter lack of effective competition in this sector.

Q. Is it appropriate for competing carriers to adopt local calling area definitions that differ from those of the ILEC?

A. Indeed it is. One of the primary public policy goals of introducing competition into the local telecommunications market has been specifically to encourage and stimulate innovation in the nature of the services that are being offered. CLECs should not be limited to competing solely with respect to *price*, nor should they be expected to become mere "clones" of the ILEC with respect to the services they offer. And indeed, the extent of the local calling area is itself becoming something that some CLECs see as an opportunity to

30. The plans offer varying levels of usage for a flat fee, after which a distance-insensitive charge of $0.35 per-minute applies. *See*, http://onlinestore.sbc.com, accessed 12/20/01.

differentiate their products from those being offered by the ILEC. A CLEC might, for example, offer its customers a larger local calling area than that being offered by the ILEC as a means for attracting customers or, alternatively, might choose to offer a *smaller* local calling area than the ILEC's service provides, at a correspondingly lower price. ILECs themselves are also changing the definition of "local calling area" by introducing optional calling plans that provide for extended area local calling including, in some cases, all exchanges within the subscriber's LATA.[31]

This is not to say that establishing larger local calling areas – whether inward or outward – will necessarily be the optimal competitive strategy for all CLECs, or even for the ILEC. One of the effects of decades of tight regulation of ILEC local service plans has been that we don't really know what combinations of price, inward/outward calling areas, and other features will appeal to different segments of the market. So, for an initial period – in fact, likely lasting for several years – I would expect to see different CLECs experimenting with different service plans, as long as regulators grant them the necessary flexibility to do so.

Q. How important is it to CLECs such as GNAPs to be granted the flexibility to make non-geographic assignments of NPA-NXX codes to their customers?

A. It is extremely important, because such "virtual" NXX use of code assignments allows CLECs such as GNAPs to overcome the constraints ordinarily imposed upon their

31. Indeed, in some locations, ILECs have established optional calling plans that allow unlimited, flat-rated calling – "local" in all relevant respects – to all locations within an entire LATA. This type of arrangement only highlights that even in the case of the ILEC, the distinction between "local" and "toll" is largely arbitrary in terms of network technology and the underlying costs of providing service.

customer's inward local calling area definitions by the ILEC's conventional local calling areas and to be able to compete with comparable "virtual" services being offered by Ameritech-IL. The problem is that in the case of incoming calls, the local calling area applicable to the *calling party* (who we can assume is most likely to be an ILEC customer) will necessarily govern the rate treatment for the call. Recall from our earlier discussion that the determination as to whether a particular call is to be rated as local or toll will be based upon the NPA-NXX code of the called telephone number. A CLEC can define an expanded *outward* local calling area for its customer simply by placing the NPA-NXX codes for one or more additional exchanges into the (outward) local rating table of its switches. Under current rules, however, there is no corresponding requirement for an ILEC to symmetrically place the same NPA-NXX code(s) within the local rate tables of *its* switches, so that ordinarily calls to those NPA-NXXs will be rated at toll calls. However, the "virtual" NXX solution allows a CLEC to compete with Ameritech-IL's FX service.

Q. Does it constitute an evasion of the ILEC's toll tariff, if a CLEC uses the "virtual" NXX method to establish one or more locally-rated inbound routes that otherwise would be subject to toll rates if placed to an ILEC subscriber in the same rate center ?

A. No, not in my opinion. As I have explained earlier in my testimony, the prevailing distinction between "local" and "toll" is an artifact of historic network architectures and technological conditions that may no longer be applicable. There is no reason why competitive marketplace forces should not be permitted to expand or otherwise reshape the traditional definition of "local calling" and perhaps to eliminate the notion of "intraLATA

toll" altogether, especially given that call distance no longer influences costs in the manner that it did when the "local" versus "toll" pricing distinction was first established.

Moreover, as I have noted, Ameritech-IL and other ILECs have for many years offered Foreign Exchange (FX) services, which allow customers to expand their inward local calling areas in essentially the same way that CLECs seek to do through "virtual" NXX arrangements.[32] In fact, some ILECs have described the CLECs' expanded inward calling area services as a "Virtual Foreign Exchange" type of service.

Q. How does a traditional ILEC FX service work?

A. Suppose that a customer located in exchange A might want a local telephone number presence in exchange B, from which exchange A would otherwise be a toll call. A caller in exchange B dials the FX number as a local call to exchange B, yet the call is physically delivered to the FX customer located in exchange A. Usually, but not always, the FX service involves a leased line connecting the central offices in the two exchanges. The FX customer pays for the dial tone line in exchange B and pays for the leased line between exchange B and exchange A. Sometimes, the ILEC may elect to provision the FX service via a switched rather than a dedicated interexchange connection. Such an arrangement, if used, is (supposed to be) transparent to the customer, who will still be charged a flat monthly rate for the leased line. Regardless of how the FX service is priced by the ILEC, the essential fact is that Ameritech-IL and other ILECs have tariffed FX services that allow their end users to place calls to points beyond their local calling area and avoid incurring toll

32. *See,* Illinois Bell Telephone Company, Illinois C.C. Tariff No. 20, Part 4, Section 3 (Foreign Type Exchange Services).

charges, just as CLECs such as GNAPs seek to do by offering the "virtual FX" services made possible by non-geographic NPA-NXX code assignments.

Q. Earlier in your testimony, you explained how a CLEC may wish to establish a "virtual FX"-type service in order to provide LATA-wide transport on a local call basis, so that, for example, end users can dial in to an ISP without incurring toll charges. Are you aware of any SBC/Ameritech affiliate that has established its own version of such a "virtual FX"-type of arrangement?

A. Yes. SBC's ILEC affiliate in Connecticut, the Southern New England Telephone Company (SBC/SNET) provides exactly the same type of "virtual FX" service that I discussed earlier in my testimony. According to the Local Exchange Routing Guide (LERG),[33] SBC/SNET has a switch in New London that is identified as providing service to NPA-NXX codes rated in thirteen separate rate centers in addition to the New London rate center, all of which are located outside of the SBC/SNET New London local calling area. Accordingly, those NPA-NXX codes are not being used in a traditional, geographically-constrained manner, but instead are being used as "virtual NXXs" to allow calls to those telephone numbers to be rated as local calls, even though they are beyond the caller's local calling area. This is exactly the same type of "virtual FX" service which I discussed earlier in my testimony[34].

33. Telecordia Technologies, *Local Exchange Routing Guide*, January 2001.

34. See SBC/SNET response to GNAPs-28 (reproduced in Attachment 3 to my testimony). GNAPs attempted to determine what charges are assessed to ISPs that use the service, but SBC/SNET objected to those discovery questions and refused to provide any responsive information. See SBC/SNET response to GNAPs-30 and GNAPs-32 (in my Attachment 3).

Moreover, in response to discovery, SBC/SNET admitted that the New London switch (designated as NWLNCT02DS7) "is an Internet Access Tandem," which "provides tandem switching for access to Internet Service Providers (ISPs)."[35] SBC/SNET's response also specifically observes that this arrangement allows end users to dial a toll-free local number to access an ISP:

> When an end user dials a local number, provided to the ISP, AIN in used in that local switch to direct that call over the dedicated common trunk group to NWLNCT02DS7. When the call arrives in NWLNCT02DS7, it is routed to a PRI to that ISP.[36]

Therefore, not only is SBC/SNET using NPA-NXX assignments without reference to geographic location, it is doing so to provide a "virtual FX"-type service to ISPs, in just the sort of manner that CLECs such as GNAPs wish to do.

Q. Does SBC/SNET appear to be using this serving arrangement in order to provide toll-free calling to its own ISP?

A. Yes, this appears to be the case. According to the SNET.net website, the SBC/SNET ISP has established local telephone numbers in each of the very same thirteen rate centers for which the Company has created a "virtual" NXX presence, as I described earlier in my testimony. SBC/SNET refused to answer discovery questions propounded by GNAPs concerning the rating of calls placed to those numbers, and additional questions seeking information about how the "ISP tandem" is used to provide services to ISPs and (perhaps)

35. SBC/SNET response to GNAPs-21. The full response is provided in Attachment 3 to my testimony.

36. *Id.*

other high-volume customers[37]. Nevertheless, it certainly appears that SBC/SNET's affiliated ISP is utilizing the serving arrangement that delivers traffic to its "ISP tandem."

While I have not been able to determine whether Ameritech-IL has established a similar "virtual-FX"-type service arrangement within Illinois, given the fact that another SBC ILEC affiliate, SBC/SNET, has established a "virtual-FX"-type service specifically catering to ISPs, it appears blatantly anti-competitive for Ameritech-IL to attempt to foreclose the ability of new entrants such as GNAPs to make use of non-geographic NPA-NXX assignments in order to offer this type of innovative service.

**Ameritech-IL's transport costs are entirely unaffected by the location at which GNAPs terminates a Ameritech-IL-originated call to a GNAPs customer.**

Q. Mr. Lundquist, consider the case where a Ameritech-IL end user places a call to a customer served by GNAPs in Illinois. Would the costs incurred by Ameritech-IL vary at all depending upon whether GNAPs delivered that call to a telephone number with a geographic NPA-NXX code assignment, versus a non-geographic assignment?

A. No, not at all. As I shall demonstrate, the costs that an ILEC incurs in carrying and handing off originating traffic to CLECs is entirely unaffected by the location at which the CLEC delivers the call to the CLEC's end user customer. As long as the CLEC establishes a POI within the LATA, it should be allowed to offer service in any rate center in the LATA and to terminate calls dialed to that rate center at any location it wishes. Thus, it is entirely reasonable and appropriate that CLECs be permitted to assign NPA-NXX codes to end users

37. See SBC/SNET Responses to GNAPs-23, GNAPs-27, and GNAPs-30.

outside the rate center in which the NPA-NXX is homed and still be entitled to full reciprocal compensation with respect to such calls.

To be sure, the ILEC's *revenues* may well be affected by, for example, a CLEC's decision to offer a larger local calling area than that being offered by the ILEC, but that impact is a *competitive loss* to the ILEC to which it has ample opportunity to respond competitively, for example, by offering its own customers expanded inward (and perhaps outward as well) local calling. An ILEC should not be permitted to escape the financial consequences of its failure to successfully compete by refusing to compensate other competing carriers for work that they have legitimately performed, nor should it be permitted to prevent its competitors from introducing new and innovative services that amount to more than merely parroting of the ILEC's traditional offerings.

Q. How is it that the cost to the ILEC is not affected by the location at which the CLEC delivers traffic to its customers?

A. Perhaps the best way to explain this point is by way of examples. Please refer to Figure 1 below. In this example, the call is originated by an ILEC customer in Wheaton and is delivered by the ILEC to a CLEC in Arlington Heights via a Point of Interconnection located in Wheaton. The CLEC's customer to whom the call was directed is also located in Wheaton, and so the CLEC needs to transport the call back to the delivery point in Wheaton. In this example, both of the ILEC's conditions for reciprocal compensation have been met, i.e., the POI is located within the local calling area of the originating ILEC access line (*i.e.*,

in Wheaton), and the call is terminated to a CLEC customer who is also located within the local calling area of the originating ILEC access line in Wheaton.

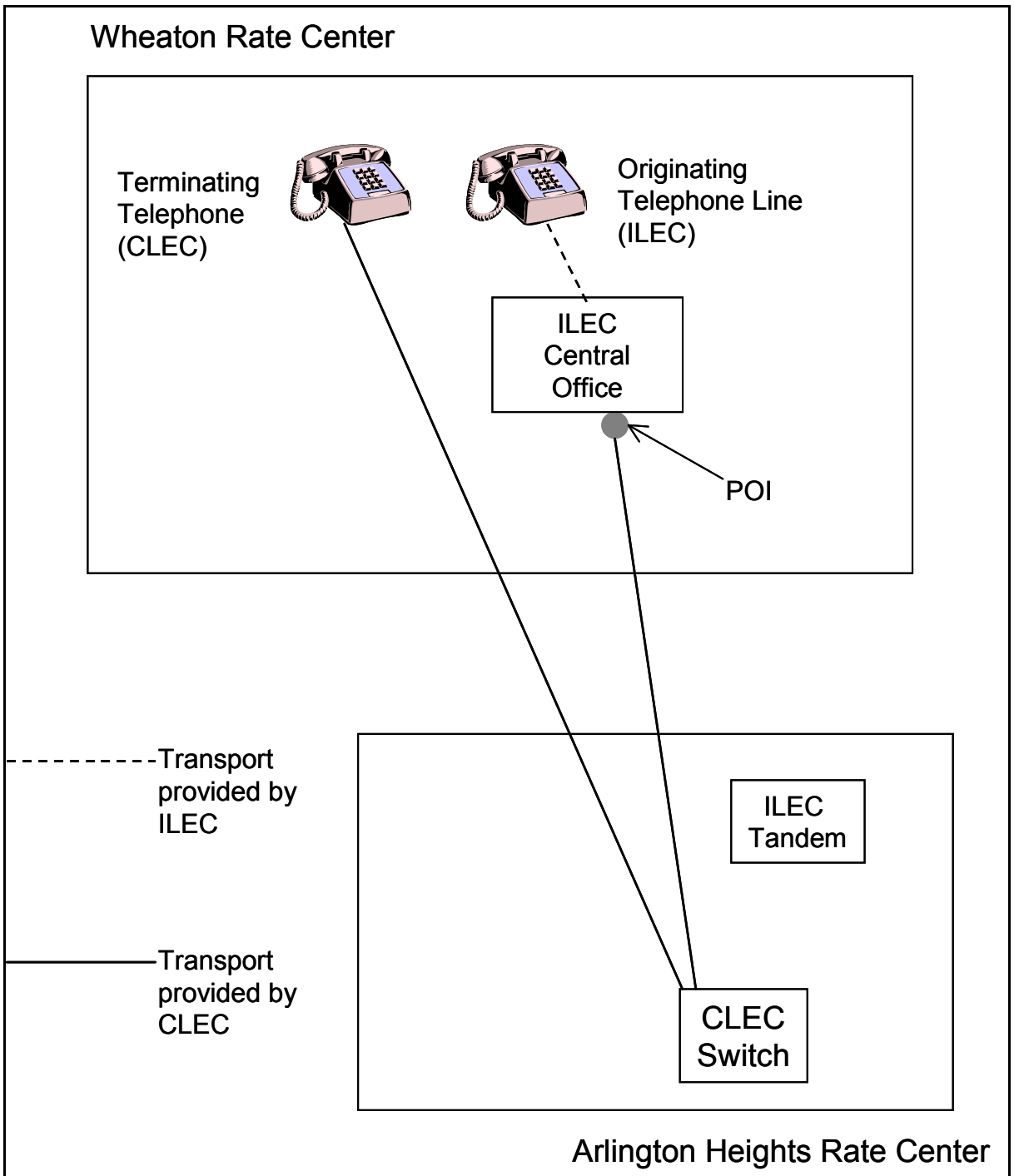


**Figure 1.** Call originated by an ILEC customer in Wheaton to a CLEC customer in Wheaton and delivered by the ILEC to a CLEC in Arlington Heights via a Point of Interconnection located in Wheaton.

Now let's change the facts of this example so as to violate one of the two assumed conditions for reciprocal compensation. Here, the ILEC's Wheaton customer still dials an Wheaton telephone number (*i.e.*, a CLEC NPA-NXX that is rated to Wheaton), but instead of the CLEC delivering the call to a CLEC customer in Wheaton as in the previous example, the CLEC delivers the call to a CLEC customer physically located in Arlington Heights, which for the purposes of this exercise I am assuming is outside of the local calling area for Wheaton.[38] Note that the POI at which ILEC hands off the call to the CLEC is still in Wheaton, i.e., still within the local calling area of the ILEC access line that originated the call. In this circumstance, the physical location of the point of delivery (Arlington Heights in this case) is not within the local calling area of the originating ILEC telephone and, as I understand it, an ILEC placing such limits on reciprocal compensation would argue that this is not a "local" call and that no reciprocal compensation is required in this case.

Q. Is there any difference in the work that ILEC would be required to perform in handing off the originated call to the CLEC as between these two examples?

A. No, and that is the essential point of these examples: In both of these cases, the ILEC's work – and its costs – are absolutely identical. The sole distinction between the two examples lies in what the *CLEC* does once it receives the call from ILEC at the POI. In the first case (Figure 1), the CLEC hauls (transports) the call all the way back from Arlington Heights to Wheaton; in the second case (Figure 2), the CLEC delivers the call to a customer located near its Arlington Heights switch. In both of these cases, the ILEC carries the call

38. Ameritech-IL's tariff rates a Wheaton to Arlington Heights call as an inter-district Band C call, see Illinois Bell Telephone Company tariff Ill. CC Tariff No. 20, Part 4, Section 2, 6th Revised Sheet 714, effective November 14, 2000.

from the originating telephone to the Wheaton POI, and so its work is entirely unaffected by where the CLEC ultimately delivers the call.

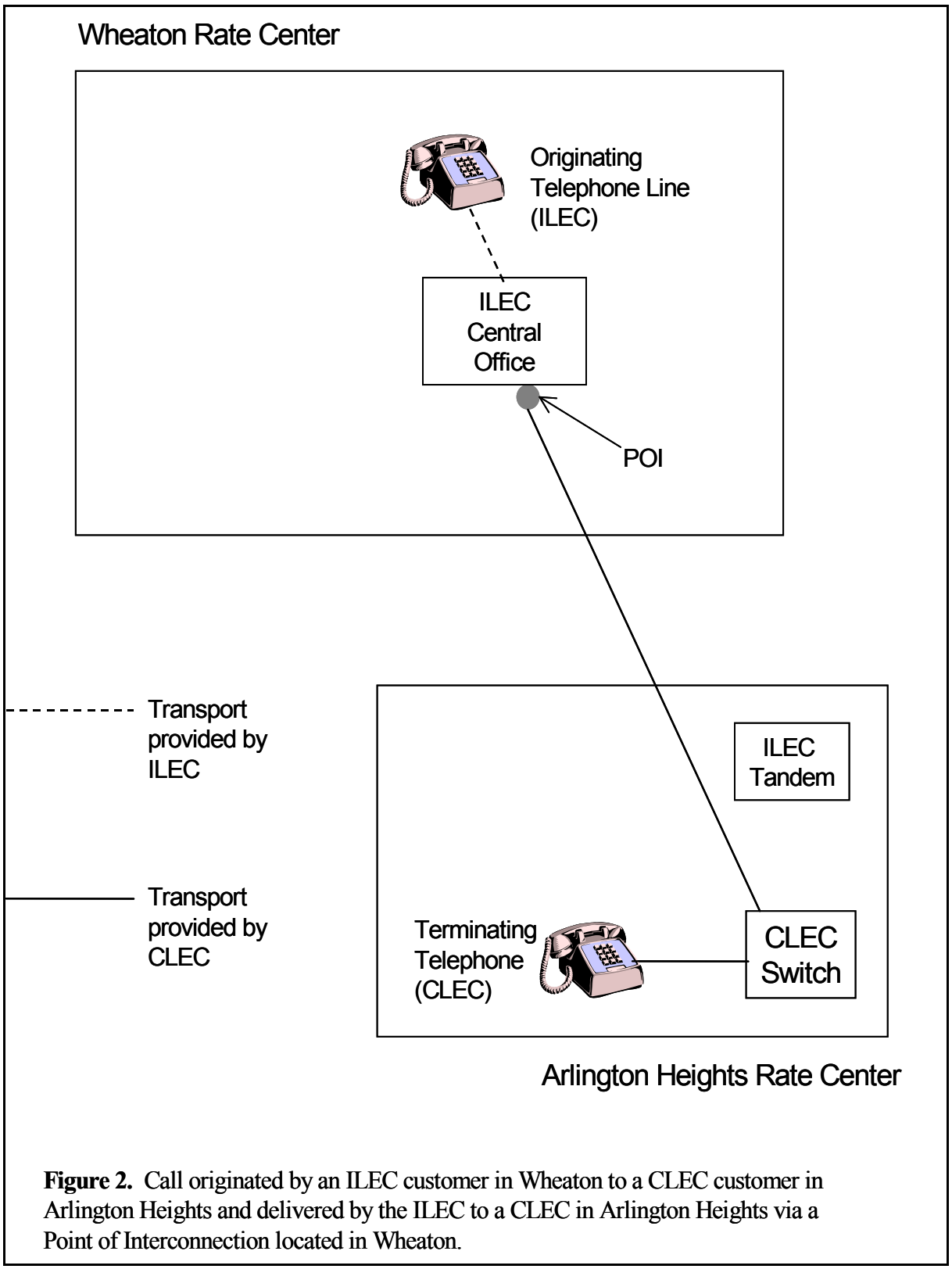


**Figure 2.** Call originated by an ILEC customer in Wheaton to a CLEC customer in Arlington Heights and delivered by the ILEC to a CLEC in Arlington Heights via a Point of Interconnection located in Wheaton.

Q. What if you were to eliminate the condition that a Point of Interconnection must be established in each local calling area. Does the location of the point of delivery by the CLEC to its end user customer then affect the ILEC's costs?

A. No, it does not. To see why, please refer to Figures 3 and 4 below, which correspond with Figures 1 and 2, respectively, except that in these two cases I am assuming that the POI is located in Arlington Heights. In Figure 3, the ILEC customer in Wheaton dials a CLEC number rated to Wheaton. Because the POI is in Arlington Heights, the ILEC is required to transport the call over its network to Arlington Heights, where it is handed off to the CLEC. As in Figure 1, the CLEC then transports the call *over the CLEC's network* back to Wheaton for delivery to its customer. In Figure 4, the ILEC customer in Wheaton also dials a CLEC number rated to Wheaton, and the ILEC transports the call to the POI in Arlington Heights. However, as in Figure 2, the call is then delivered by the CLEC to a CLEC customer in Arlington Heights rather than in Wheaton. As was the case as between Figures 1 and 2, there is absolutely no difference in the work that the ILEC is called upon to perform as between Figures 3 and 4. In both of these cases, the ILEC transports the originating call from its Wheaton customer to the CLEC POI in Arlington Heights; *the location where the CLEC ultimately delivers the call has no effect whatsoever upon ILEC's work or its costs*.

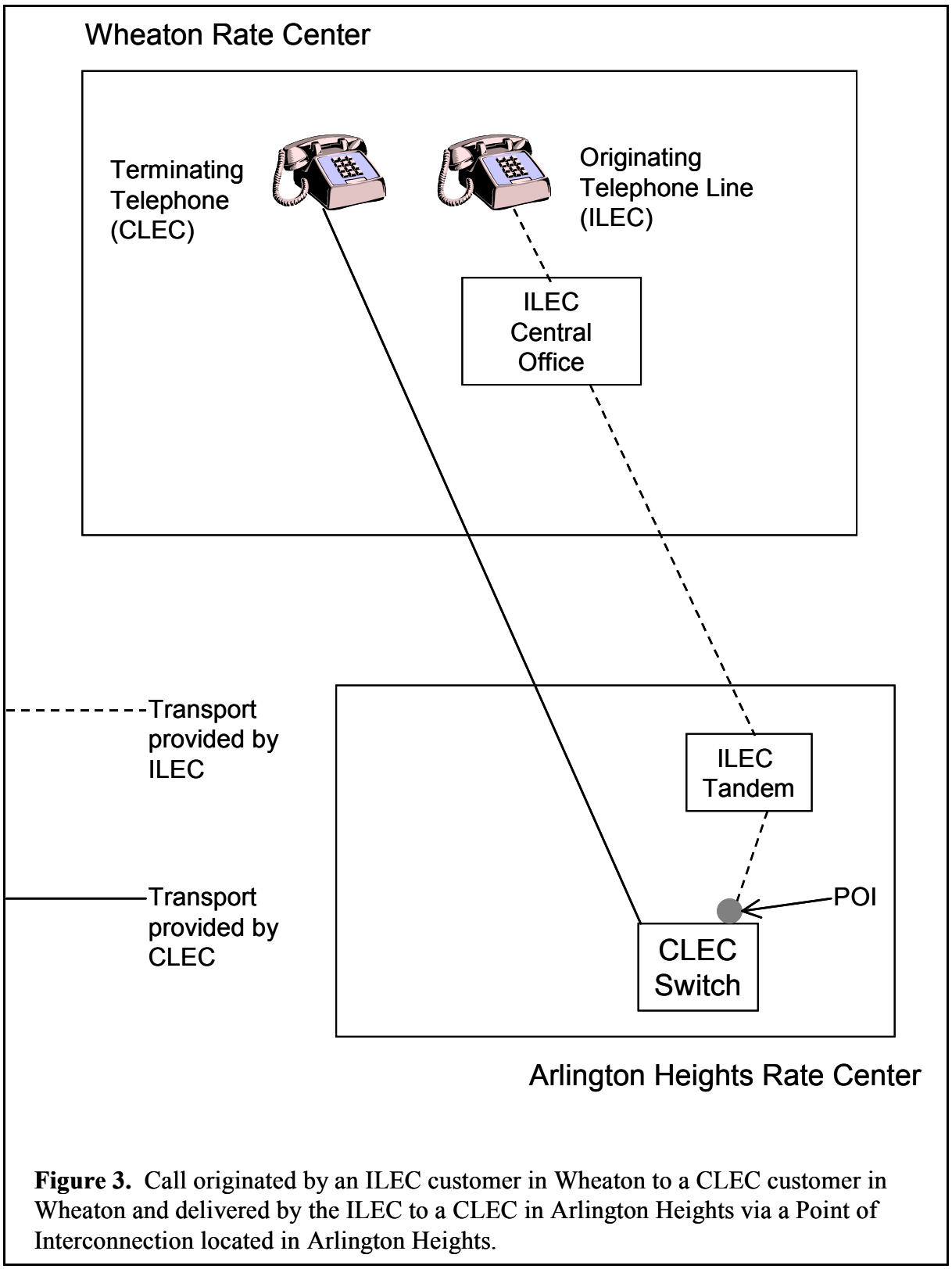


**Figure 3.** Call originated by an ILEC customer in Wheaton to a CLEC customer in Wheaton and delivered by the ILEC to a CLEC in Arlington Heights via a Point of Interconnection located in Arlington Heights.

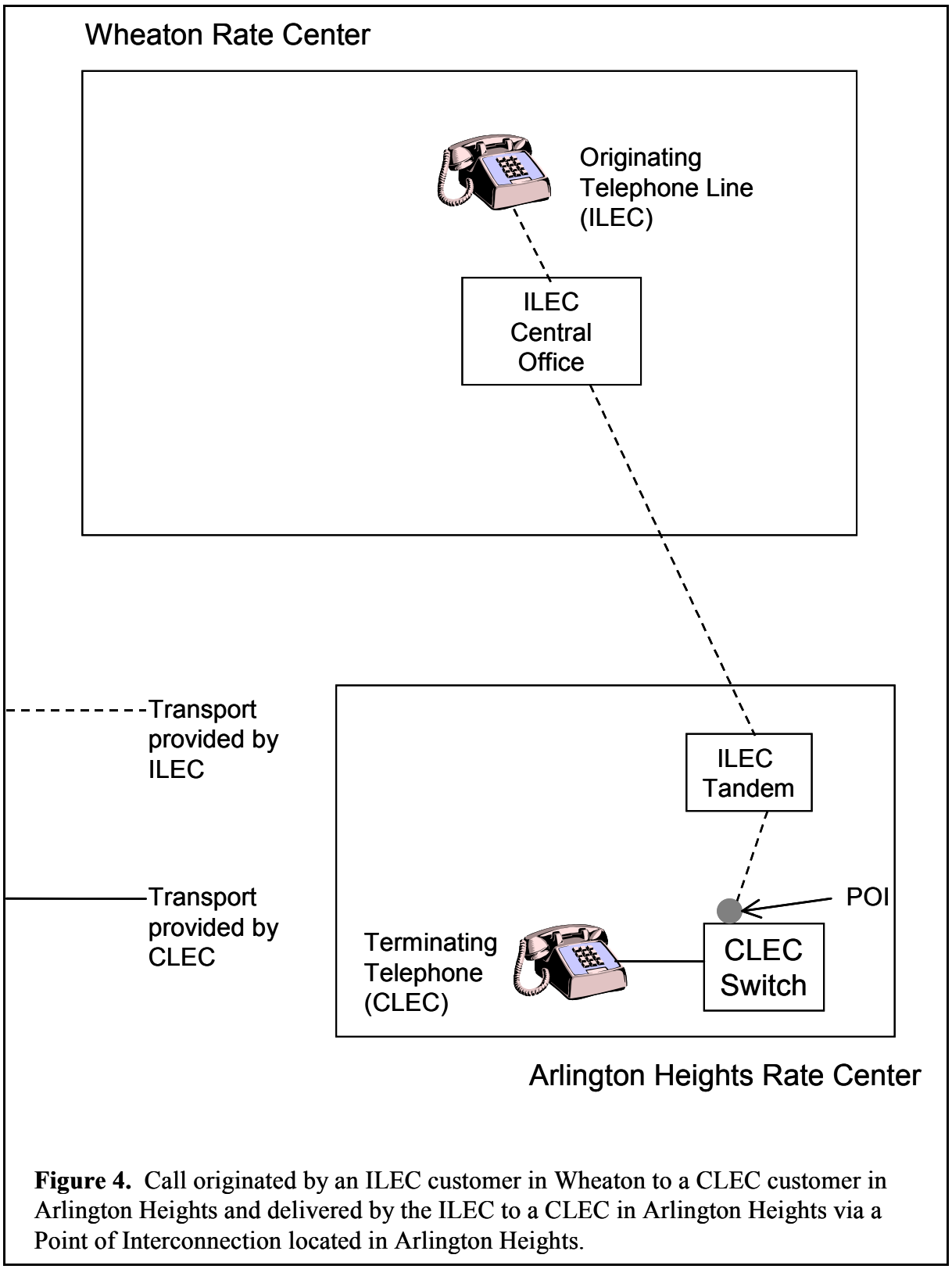


**Figure 4.** Call originated by an ILEC customer in Wheaton to a CLEC customer in Arlington Heights and delivered by the ILEC to a CLEC in Arlington Heights via a Point of Interconnection located in Arlington Heights.

Q. You have suggested that the only impact upon Ameritech-IL arising out of GNAPs' decision as to the point of delivery of a given call lies in the possibility that Ameritech-IL might sustain a competitive loss. Please elaborate on this point.

A. Suppose that, under the Ameritech-IL tariff, a toll charge may apply for calls beyond a certain distance or between non-contiguous exchanges, whereas a CLEC, in an effort to differentiate its service from that of Ameritech-IL and also to offer potential customers some additional service features that are not being offered by Ameritech-IL, treats some or these calls as "local" and thus imposes no specific charge for the call. If, as a result of the CLEC's offering, some of Ameritech-IL's customers are persuaded to switch over to the CLEC's service, Ameritech-IL will sustain a loss of both local and toll revenue. *Such a loss of business is a direct and inescapable outcome of competition*; Ameritech-IL can either respond by reducing or eliminating its own (toll) charge for these calls (thereby sustaining some revenue loss), or risk losing customers to the less expensive CLEC service (thereby also sustaining some revenue loss). The issue here is entirely one of *pricing and competitive response*, not one of policy. In many cases, however, even that potential loss of revenue can be overcome if Ameritech-IL adopts a more competitively rational pricing metric.

Q. You stated that in some cases Ameritech-IL may sustain a loss of toll revenue. Why would that not arise in *all* cases where the CLEC provides "free" service over a route for which the incumbent imposes a charge?

A. This is because in many cases where the incumbent imposes a charge the customer does not use the service at all. For example, as we have previously discussed, many customers reach

their Internet Service Provider ("ISP") by dialing a number rated in the customer's home community that the LEC (Ameritech-IL or a CLEC) ultimately delivers to the ISP at a distant point. In the examples we were discussing earlier and that are illustrated in Figures 1 through 4, suppose that the ISP customer takes local telephone service from Ameritech-IL in Wheaton, and that the call is handed off to a CLEC, which then delivers the call to an ISP in Arlington Heights. One might argue that this arrangement deprives Ameritech-IL of the toll revenue it would otherwise have received were this virtual FX arrangement not in place. In reality, the Wheaton customer would have been unlikely to have called the Arlington Heights ISP on a toll call basis in the first place, and would have either selected a different ISP with a Wheaton presence, or simply not used the Internet at all. Either way, Ameritech-IL would not have received any toll (or expanded "local") revenue. Hence, in this circumstance, the only "revenue loss" to Ameritech-IL is a theoretical one based upon the "what might have been" rather than the "what actually was."

Moreover, if Ameritech-IL employs, now or in the future, an "ISP tandem" arrangement comparable to that established by SBC's Connecticut affiliate, SBC/SNET, whatever "toll revenue loss" it may encounter as a result of GNAPs' use of virtual NXX codes is no different conceptually from the "toll revenue loss" that Ameritech-IL would itself incur from the use of that service, e.g. when a customer in Wheaton dials a Wheaton-rated NXX code and the call is transported and delivered by Ameritech-IL to an ISP (which might well be an affiliate of Ameritech-IL) in Arlington Heights.

Q. To summarize your recommendation, is there any merit in Ameritech-IL's position that GNAPs should not be permitted to utilize virtual NXX assignments and rating arrangements?

A. No, and for the Commission to accede to Ameritech-IL's position on this issue would have the effect of denying GNAPs the opportunity to offer exactly the same types of services that Ameritech-IL itself can provide, and thereby to inappropriately protect Ameritech-IL from a competitor.

## INTERCARRIER COMPENSATION ISSUES

**From an economic and policy perspective, the appropriate intercarrier compensation for the termination and transport of ISP-bound local calls, as well as other forms of local traffic, is a symmetric rate based upon the ILEC's prevailing TELRIC cost level, which creates incentives for continual reductions in the costs of call termination services and harms neither ILECs nor end users.**

Q. Mr. Lundquist, what rules currently govern the intercarrier compensation payments applicable to calls that are made to an Internet Services Provider?

A. While I am not offering a legal opinion, my understanding is that the FCC's *ISP Remand Order*[39] currently governs the intercarrier compensation payments that must be made when a locally-rated dial-up call to an Internet Services Provider (ISP) is handed off from the originating carrier to another carrier for completion. That order represents the FCC's second effort to impose a federally-mandated distinction between ISP-bound calls and all other locally-rated traffic that is subject to reciprocal compensation for intercarrier compensation purposes (so-called "Section 251(b)(5) traffic").

Q. Can you briefly summarize the history of those efforts?

A. Yes. In February 1999, the FCC issued a *Declaratory Ruling* which held that such calls are jurisdictionally mixed, but largely interstate; and that because ISP-bound calls were "non-local interstate traffic" to which Section 251(b)(5) did not apply, state commissions were

39. *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Intercarrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98 and 99-68, *Order on Remand and Report and Order,* FCC 01-131 (rel. April 27, 2001) ("*ISP Remand Order"*).

free to determine whether or not reciprocal compensation payments should apply to that traffic when arbitrating new interconnection agreements[40]. However, in March 2000, the D.C. Circuit Court of Appeals vacated and remanded the *Declaratory Ruling* "for want of reasoned decision-making."[41] In April of this year, the FCC released the *ISP Remand Order*, in which it concludes once again that ISP-bound calls are exempt from the reciprocal compensation obligations of Section 251(b)(5), although it bases that conclusion on what appears to be an entirely different legal analysis than that put forth in the *Declaratory Ruling*[42]. In a parallel action, the FCC also issued a *Notice of Proposed Rulemaking* to consider more permanent intercarrier compensation arrangements for ISP-bound traffic (as well as other types of calls)[43].

Q. What are the particular rules established by the *ISP Remand Order*?

A. The *ISP Remand Order* establishes specific rates and terms for intercarrier compensation for ISP-bound traffic on an interim basis, including the following provisions:

40. *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Intercarrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98 and 99-68, *Declaratory Ruling in CC Docket No. 96-98 and Notice of Proposed Rulemaking in CC Docket No. 99-68*, FCC 99-38 (rel. February 26, 1999) ("*Declaratory Ruling*"), at paras. 18-20 and 26.

41. *Bell Atl. Tel. Cos. V. FCC*, 206 F.3d 1 (D.C. Cir. 2000)("*Bell Atlantic*"). Specifically, the Court found that the FCC had applied an "end-to-end analysis" that had been formerly used to determine calls' jurisdictional status, without explaining why that analysis was relevant to evaluating whether ISP-bound calls fit within the definition of Section 251(b)(5) traffic. *Id*. at 17.

42. *See ISP Remand Order* at paras. 31-47 (finding that ISP-bound traffic falls within the categories enumerated by Section 251(g), which are exempted from the reciprocal compensation requirements of Section 251(b)(5)).

43. *Intercarrier Compensation NPRM*.

- For six months following the effective date of that order, intercarrier compensation for ISP-bound traffic was to be capped at $0.0015 per minute of use (MOU); thereafter, the compensation rate would fall to $0.0010 / MOU for the next eighteen months, and thence to $0.0007 / MOU thereafter pending further FCC action;[44]

- A LEC's total compensation for termination of ISP-bound traffic is limited in each of the years 2001-2003 to its historical levels, plus a "growth factor" ranging from zero to ten percent;[45] and

- A rebuttable presumption is applied that traffic out of balance by more than a 3:1 ratio is ISP-bound terminating traffic to which the ISP compensation rates and limits will apply.[46]

In addition, the *ISP Remand Order* established a separate rule that is most relevant to the circumstances in the instant proceeding. Namely, when carriers have not been exchanging traffic under interconnection agreements before the *ISP Remand Order* was adopted (which I understand to be the case for GNAPs and Ameritech-IL), then bill-and-keep is to be applied to ISP-bound traffic on an interim basis.[47]

Because the FCC was concerned about the "superior bargaining power of incumbent LECs" relative to CLECs seeking interconnection, it has conditioned the application of its intercarrier compensation rules for ISP-bound traffic to the ILEC's acceptance of the same rules for all forms of traffic subject to Section 251(b)(5), including local traffic exchanged

44. *ISP Remand Order*, at para. 78.

45. *Id*. at para. 78. The specific formulas to be applied are given therein.

46. *Id.* at para. 79.

47. *Id.* at para. 81.

with CMRS providers.[48] The FCC allows ILECs to make this election on a state-by-state basis.[49]

Q. Has Ameritech-IL elected to apply the FCC's new intercarrier compensation rules for Section 251(b)(5) traffic to its Illinois operations?

A. Counsel advises me that Ameritech-IL contends that it has not yet made its election.[50] Yet, Ameritech-IL Illinois has entered into a number of contracts with CLECs since the *ISP Remand Order* was adopted. In that order, the FCC stated that it would "not allow [ILECs] to 'pick and choose' intercarrier compensation regimes, depending on the nature of the traffic exchange with another carrier."[51] Nevertheless, that appears to be exactly what Ameritech-IL is attempting to do in this case.

Q. Is the *ISP Remand Order* under appeal?

A. Yes, counsel has advised me that there is an appeal pending with the D.C. Circuit Court of Appeals.[52]

48. *Id.* at para. 89.

49. *Id.*, at footnote 179.

50. See also, GNAPs Petition, at footnote 35.

51. *ISP Remand Order*, at para. 89.

52. *ISP Remand Order*, *appeal docketed*, No. 01-1218 and 01-1274 (consolidated) (D.C. Cir. May 17, 2001).

Q. Notwithstanding the applicability of the rules established by the *ISP Remand Order* to the instant case, does the proposal by Ameritech-IL to utilize bill and keep for "local" traffic and an access charge regime for toll traffic[53] represent a reasonable form of intercarrier compensation from an economic and policy standpoint?

A. No, it does not. As a general matter, the most appropriate form of intercarrier compensation for the termination and transport of ISP-bound local calls, as well as other forms of local traffic, continues to be a symmetric rate based upon the ILEC's prevailing TELRIC cost level, which creates incentives for continual reductions in the costs of call termination services and harms neither ILECs nor end users. These incentives and the positive market developments they engender were expressly recognized by the FCC in 1996, when it designed the reciprocal compensation rules that continue to be applied to local telecommunications traffic subject to Section 251(b)(5)[54]. Despite the fact that the FCC recognized the limited applicability of bill-and-keep at that time, and that bill-and-keep was strenuously opposed by several of the ILECs, the FCC has seized upon mandatory bill-and-keep as a "solution" to the problem that it believes has been created by the rapid growth in providers of specialized call termination services, including but not limited to termination of ISP-bound calls. However, a thorough analysis of the economic and policy foundations to intercarrier compensation, as applied to ISP-bound calls and other telecommunications traffic, leads to the conclusion that mandatory bill-and-keep would fail to be an efficient or equitable form of intercarrier compensation, and in fact would seriously disadvantage CLECs in favor of ILECs in a manner contrary to the *Act.*

53. See GNAPs Petition, at paras. 66-68.

54. *See* the FCC's *Local Competition Order*.

Q. Have you undertaken such an analysis?

A. Yes. Earlier this year, ETI's President, Dr. Lee L. Selwyn, and I prepared a report that examines in detail the economic and policy issues associated with intercarrier compensation arrangements for interconnecting telecommunications carriers. A copy of this report, *Efficient Intercarrier Compensation Mechanisms for the Emerging Competitive Environment*, is provided as Attachment 5 to my testimony.[55]

Q. Can you summarize the principal findings contained in that report?

A. Yes. One focus of our report was to respond to two papers published by the FCC's Office of Plans and Policy (OPP) which the FCC cited in the *Intercarrier Compensation NPRM* as support for adopting a mandatory bill-and-keep framework for intercarrier compensation. In brief, our report identifies four main flaws in those papers, and concludes that neither paper provides a sound economic or policy basis for regulators to impose "bill-and-keep" arrangements as the preferred solution for intercarrier compensation on ISP-bound calls and other locally-rated traffic. The other principal findings of our report are as follows:

- The perceived "problems" with the existing intercarrier compensation mechanism of explicit reciprocal compensation payments – traffic imbalances and the growth in payments by ILECs to CLECs for termination of ISP-bound calls – are properly viewed as the outcome of exactly the type of competition that the *Telecommunications Act of 1996* and the FCC's *Local Competition Order* was intended to promote, and do not represent market "failures" that must be remedied by further regulatory intervention.

55. This report was originally submitted in the FCC's Intercarrier Compensation rulemaking, CC Docket No. 01-92, as an attachment to the August 21, 2001 Comments of Focal Communications Corp., Pac-West Telecomm, Inc., RCN Telecom Services, Inc. and US LEC Corp.

- Despite the recent revival of interest in a bill-and-keep model for intercarrier compensation – which was flatly opposed by most ILECs when first considered in post-*Act* arbitrations and regulatory proceedings to establish reciprocal compensation rates – the economics of bill-and-keep have not changed from the period when the FCC previously concluded that it was reasonable to apply *only* when carriers exchanged traffic that was roughly balanced so that *mutual* compensation would take place.

- When evaluated using appropriate criteria, including economic efficiency, competitive neutrality, and impacts upon end users, neither bill-and-keep nor other options that have been considered for application to ISP-bound traffic, including traffic imbalance thresholds and access charge treatment, would provide a satisfactory alternative to the existing form of reciprocal compensation arrangements.

Q. What are your recommendations at this time to the Commission concerning the application of intercarrier compensation to locally-rated traffic exchanged between GNAPs and Ameritech-IL?

A. In the event that the Commission determines at some future point that the specific intercarrier compensation rules set forth in the FCC's *ISP Remand Order* do not apply to locally-rated traffic exchanged between GNAPs and Ameritech-IL (e.g., as a result of an appellate court ruling to reverse, vacate, or stay the *ISP Remand Order*), the Commission should apply a symmetric, TELRIC-based reciprocal compensation rate consistent with the findings and supporting analysis presented in our report.

Q. Does that conclude your testimony at this time?

A. Yes, it does.